

Предел последовательности

$$\boxed{1} \quad \lim_{n \rightarrow \infty} \frac{10^{100}n}{n^2 - 1}$$

$$\boxed{2} \quad \lim_{n \rightarrow \infty} \frac{4n^2 - 3n + 1}{100n - 3}$$

$$\boxed{3} \quad \lim_{n \rightarrow \infty} \frac{20n^2 + 4n + 1}{n^3 - 10n^2 + 3n - 2}$$

$$\boxed{4} \quad \lim_{n \rightarrow \infty} \frac{13n^2 - 10n - 5}{8n^2 + 7n - 5}$$

$$\boxed{5} \quad \lim_{n \rightarrow \infty} \frac{20n^{\frac{9}{4}} + 3n - \frac{12}{n}}{31n^{\frac{3}{2}} - 5n^2 - 8n - 1}$$

$$\boxed{6} \quad \lim_{n \rightarrow \infty} \frac{\sin n}{n}$$

$$\boxed{7} \quad \lim_{n \rightarrow \infty} (\sqrt{n+1} - \sqrt{n})$$

$$\boxed{8} \quad \lim_{n \rightarrow \infty} \left(\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \cdots + \frac{1}{n \cdot (n+1)} \right)$$

$$\boxed{9} \quad \lim_{n \rightarrow \infty} \sqrt[n]{n}$$

$$\boxed{10} \quad \lim_{n \rightarrow \infty} (\sqrt[2]{2} \sqrt[4]{2} \sqrt[8]{2} \dots \sqrt[2^n]{2})$$

$$\boxed{11} \quad \lim_{n \rightarrow \infty} \frac{n^{100}}{2^n}$$

$$\boxed{12} \quad \lim_{n \rightarrow \infty} \frac{100^n}{n!}$$

$$\boxed{13} \quad \lim_{n \rightarrow \infty} \sqrt[n]{n!}$$

$$\boxed{14} \quad \lim_{n \rightarrow \infty} \left(\frac{1}{n^2} + \frac{2}{n^2} + \cdots + \frac{n-1}{n^2} \right)$$

$$\boxed{15} \quad \lim_{n \rightarrow \infty} \left(\frac{1^2}{n^3} + \frac{2^2}{n^3} + \cdots + \frac{(n-1)^2}{n^3} \right)$$

$$\boxed{16} \quad \lim_{n \rightarrow \infty} \operatorname{arctg}(n)$$